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ABSTRACT

This paper analyzes the results of a pilot study at Glendale Community College (Arizona) to assess the effectiveness of a comprehensive multiple choice final exam in the macroeconomic principles course. The "pilot project" involved the administration of a 50-question multiple choice exam to 71 students in three macroeconomics sections. The assessment looked at four areas: (1) problems of test administration, such as quality of the questions and the problem of time constraints; (2) student reactions to the test as related to the hours they spent studying for it; (3) the relationship between the unit test (covering three to four chapters) scores and the comprehensive final exam; and (4) the relationship between the class writing assignment and the final exam. Results indicate that the use of a comprehensive final exam may be a redundant measure of student performance if unit tests are given throughout the semester. However, a case can still be made for comprehensive final exams on the grounds that they may promote a fuller understanding of the material, or that they provide a second chance for learning material that may have been missed or distorted. Appended are the final exam questionnaire, tables indicating hours studied, test score analysis, and a copy of the final exam. (AS)

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ED 427 830

THE USE OF A COMPREHENSIVE MULTIPLE CHOICE FINAL EXAM IN THE MACROECONOMICS PRINCIPLES COURSE: AN ASSESSMENT

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Social Sciences Division
Glendale Community College
April, 1999

JC 990 133

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GLENDALE
COMMUNITY
COLLEGE

6000 West Olive Avenue
Glendale, AZ 85302-9983
Phone 602-435-3000
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DATE: April 14, 1999

TO: Paul DePippo

FROM: Michael C. Petrowsky MCP

RE: The Use of a Comprehensive Multiple Choice Final Exam in the Macroeconomics Principles Course

Enclosed is a brief report that analyzes my experience last semester in using a comprehensive multiple choice final exam. As such, it represents a follow up to the document that was prepared last August which surveyed the issues surrounding the development of such an instrument in order to possibly satisfy North Central requirements.

The "pilot project" involved the administration of a 50 question multiple choice exam to my three macroeconomics sections of 71 students. Subsequent assessment includes an informal time completion study, a student questionnaire, and some linear correlation and regression analysis. Results indicate that the use of a comprehensive final exam may be a redundant measure of student performance if unit tests are given throughout the semester. But a case can still be made for comprehensive final exams on the ground that they may promote a fuller understanding of the material or that they provide a second chance for learning material that may have been missed or distorted.

THE USE OF A COMPREHENSIVE MULTIPLE CHOICE FINAL EXAM IN THE MACROECONOMICS PRINCIPLES COURSE: AN ASSESSMENT

Social Sciences Division
Glendale Community College
April, 1999

I. INTRODUCTION

This is a follow up to a document that I prepared last August which dealt with the development of a comprehensive multiple choice exam in the macroeconomic principles course. Discussions that occurred subsequent to this essay focused on the need to run a "pilot" exam and then to assess the experience.

This brief paper analyzes the results of this pilot project. During the fall, 1998, semester I gave my three macroeconomic principles classes a comprehensive final exam using the questions provided by the Gregory & Ruffin (G &R) testbank. The exam, shown in Appendix D, contained 50 questions and was taken by 71 students. The exam coverage included chapters 1-4, and 23 through 32 of G&R's *Principles of Economics* text, with each chapter being covered by approximately three to four questions. (Time Constraints prevented me from giving adequate treatment to chapters 33 and 34, so these chapters were not included on the exam.)

The subsequent assessment of this pilot exam looked at four areas. These included (1) problems of test administration, (2) student reaction to the test, (3) the relationship between the unit test scores and the comprehensive final exam, and (4) the relationship between the class writing assignment and the final exam. Each of these areas are treated in the sections that follow.

II. TEST ADMINISTRATION

The administration of any test instrument has its share of difficulties, but there were two problems relating to the pilot project that are worth noting. The first problem

concerns the quality of the questions. An item analysis that was performed on the test results revealed that six questions were consistently answered wrong by almost 95 percent of the students. A subsequent analysis of these questions showed that this large incorrect response rate was due either to faulty question construction or to a high level of content difficulty that was not correspondingly explained in the text. The moral from this, I suppose, is that close question review is mandatory in multiple choice development.

Second, there is the problem of time. Students were given approximately 1 hour and 50 minutes to answer 50 questions, or about 2.2 minutes per question. While this seems reasonable enough, I was curious about the test completion time, so I monitored student performance in one class that had 28 test takers. The results indicated that these completion times varied widely. About 25 percent of these students finished the exam in 80 minutes. Yet almost 18 percent of the students (5 people) were still taking the test during the last five minutes of the exam period. This latter finding suggests that the exam could be reduced in length somewhat to about 45 questions.

III. STUDENT REACTIONS

After students were finished with the exam, they were then asked to complete a brief questionnaire that asked them to assess their experience. The questionnaire, along with tables that summarize the results, are shown in Appendix A.

Tables 1 and 2 looked at the number of hours students prepared for the exam as well as the nature of their preparation. Over two thirds of the students reported that they

spent at least four hours studying for the exam; 30 percent reported spending at least six hours preparing. The bulk (68 percent) of these students, moreover, used their time by reviewing the textbook and classroom notes.

Table 3 summarizes somewhat different and possibly surprising results from the standpoint of student learning. Over 80 percent of the students indicated that in studying for the final exam they learned things that they missed during the semester. This finding lends strong support to the desirability of a comprehensive exam instrument, for it strongly suggests that the restudying of material is more than just repetitious or remedial.

Another surprising result is shown in Table 4. Fully 60 percent of the students indicated that they spent more time studying the chapter material that was covered earlier in the semester as opposed to more recent material. This phenomenon probably accounts for some of the findings reported in Table 3, although why students allocated their time this way is not known.

Finally, Table 5 indirectly points to a positive student reaction to the comprehensive final exam. Almost 97 percent of the students felt that by taking a comprehensive exam they were either able to understand the material in a better way or were given a chance to learn it again.

IV. UNIT TESTS VERSUS A COMPREHENSIVE FINAL EXAM

In addition to the comprehensive final exam, my three macroeconomics classes required that students take four unit tests (which usually covered three to four chapters)

and complete a writing assignment based on the film series "Economics USA." (My honors section had an additional writing assignment.) The relationship between the four unit tests and the comprehensive final exam was analyzed statistically and is shown in Appendix B, where the aggregated mean score of the four unit tests for each student is correlated against the scores on the comprehensive final exam.

Perhaps not surprisingly, the correlation coefficient was very high, coming in at not quite 78 percent. A regression equation was also developed where the mean unit test score was treated as the independent variable while the comprehensive final exam score was assigned dependent status. This yielded the equation

$$FINAL = -.4374039 + .933816UNIT$$

with a slope of .93 which was found to be statistically significant at the .05 alpha level. Residual analysis also revealed a good pattern as regards the independence and variance of the error term.

The high correlation coefficient raises an interesting policy issue, for it suggests that a comprehensive final exam may not be needed. High unit test scores strongly predict a high comprehensive final exam score. The justification for a comprehensive final exam, then, must probably rely on other rationales which might include the information that was developed on the student survey.

V. THE WRITING ASSIGNMENT GRADE VERSUS THE COMPREHENSIVE FINAL EXAM SCORES

Students in my three macroeconomics classes were also required to review one of the thirty minute films from the series "Economics USA" and then write a three to five page paper which reviewed the film and related it to the course, with specific reference to the textbook and classroom lectures. The statistical relationship between the grades for this writing assignment and for the scores on the comprehensive final are shown in Appendix C. The computed correlation coefficient, while not as high as for the unit tests, was still 60 percent. The regression equation (with the writing assignment grade as the independent variable) had a slope of .81 which was also found to be statistically significant at the .05 alpha level. Success on the writing assignment, then, was a moderate predictor of success on the final exam.

VI. CONCLUSION

From a statistical standpoint, the use of a comprehensive final exam may be a redundant measure of student performance if unit tests are given throughout the semester. Despite this, however, a case can still be made for comprehensive final exams on the ground that they promote a fuller understanding of the material or that they provide a second chance for learning material that may have been missed or distorted. Time constraints suggest that an hour and 50 minute exam period may be too brief for a 50 question exam.

APPENDIX A

FINAL EXAM QUESTIONNAIRE – ECONOMICS 111
DECEMBER, 1998

You have just completed a comprehensive final exam for the Economics 111 course. The questions below ask you to assess this experience.

1. How many hours did you study for this final exam?
   a. less than two hours
   b. at least two or more hours but less than 4 hours
   c. at least 4 or more hours but less than 6 hours
   d. at least 6 or more hours but less than 8 hours
   e. at least 8 or more hours but less than 10 hours
   f. over 10 hours

2. Indicate how you spent the **most** amount of your time in preparing for the final exam.
   a. By reviewing your classroom notes
   b. By rereading the chapters in your textbook
   c. By reviewing past exams
   d. By reviewing the textbook
   e. By using the study guide

3. In studying for this exam, do you feel that you learned things that you missed during the semester?
   a. Yes, quite a lot
   b. Yes, somewhat
   c. I do not know
   d. Not at all

4. The final exam contained questions on material that was covered earlier in the semester (chapters 1-4, 23-25) as well as on material that was covered later in the semester (chapters 27-32). Which material did you spend the most time on for this exam?
   a. I spent more time on the earlier chapters
   b. I spent more time on the later chapters
   c. I spent an equal amount of time on all material

5. By reviewing material for this exam that I had studied for earlier in the semester, I felt that
   a. I was given a chance to learn it again
   b. I was wasting my time.
   c. I was able to understand the material in a better way

COMMENTS:

TABLE 1

HOW MANY HOURS DID YOU STUDY FOR THIS EXAM?

HOURS	NUMBER	%OF TOTAL
less than two hours	4	5.79
at least 2 or more hours but less than 4 hours	18	26.08
at least 4 or more hours but less than 6 hours	26	37.68
at least 6 or more hours but less than 8 hours	12	17.39
at least 8 or more hours but less than 10 hours	4	5.79
over 10 hours	5	7.24
TOTAL	69	100.0

TABLE 2

INDICATE HOW YOU SPENT THE MOST AMOUNT OF YOUR TIME IN PREPARING FOR THE FINAL EXAM.

TIME SPENT	NUMBER	% OF TOTAL
By reviewing classroom notes	29	36.70
By rereading the chapters in the textbook	5	6.32
By reviewing past exams	9	11.39
By reviewing the textbook	25	31.64
By using the study guide	11	13.92
TOTAL	79	100.0

TABLE 3

IN STUDYING FOR THIS EXAM, DO YOU FEEL THAT YOU LEARNED THINGS THAT YOU MISSED DURING THE SEMESTER?

RESPONSE	NUMBER	% OF TOTAL
Yes, quite a lot	9	13.04
Yes, somewhat	48	69.56
I do not know	5	7.24
Not at all	7	10.14
TOTAL	69	100.0

TABLE 4

THE FINAL EXAM CONTAINED QUESTIONS ON MATERIAL THAT WAS COVERED EARLIER IN THE SEMESTER (CHAPTERS 1-4, 23-25) AS WELL AS ON MATERIAL THAT WAS COVERED LATER IN THE SEMESTER (CHAPTERS 27-32). WHICH MATERIAL DID YOU SPEND THE MOST TIME ON FOR THIS EXAM?

RESPONSE	NUMBER	% OF TOTAL
I spent more time on the earlier chapters	42	59.15
I spent more time on the later chapters	16	22.53
I spent an equal amount of time on all material	13	18.30
TOTAL	71	100.0

TABLE 5

BY REVIEWING MATERIAL FOR THIS EXAM THAT I HAD STUDIED FOR EARLIER IN THE SEMESTER, I FELT THAT

RESPONSE	NUMBER	% OF TOTAL
I was given a chance to learn it again	25	36.23
I was wasting my time	2	2.89
I was able to understand the material in a better way	42	60.08
TOTAL	69	60.08

APPENDIX B

Information Entered

Number of Data Points:	71
Alpha Error:	.05
Critical t:	1.997
Dependent Variable:	# 2 - final

	unit	final		unit	final		unit	final		unit	final
1 =	62	58	12 =	82	84	23 =	62	56	34 =	75	76
2 =	73	70	13 =	81	76	24 =	72	62	35 =	86	74
3 =	62	62	14 =	77	74	25 =	87	90	36 =	80	64
4 =	58	76	15 =	84	84	26 =	69	60	37 =	84	86
5 =	90	78	16 =	69	64	27 =	88	84	38 =	82	84
6 =	82	72	17 =	80	72	28 =	89	88	39 =	79	52
7 =	83	78	18 =	88	80	29 =	75	66	40 =	80	78
8 =	75	74	19 =	72	54	30 =	75	54	41 =	80	66
9 =	66	58	20 =	92	92	31 =	76	76	42 =	89	92
10 =	80	76	21 =	60	42	32 =	91	88	43 =	82	76
11 =	93	86	22 =	96	96	33 =	79	76	44 =	98	90

	unit	final		unit	final
45 =	87	84	64 =	70	66
46 =	81	92	65 =	76	62
47 =	79	82	66 =	85	76
48 =	80	60	67 =	63	60
49 =	84	72	68 =	68	62
50 =	88	76	69 =	85	86
51 =	74	58	70 =	86	70
52 =	82	84	71 =	68	58
53 =	79	72			
54 =	67	68			
55 =	69	64			
56 =	60	58			
57 =	78	70			
58 =	88	82			
59 =	76	66			
60 =	79	66			
61 =	65	74			
62 =	46	46			
63 =	83	74			

Results

B0 Coefficient:	-0.4374
B1 Coefficient:	0.9338
Mean of X (unit):	77.8732
Mean of Y (final):	72.2817
Sum of Squares Regression:	6,051.6123
Sum of Squares Error:	3,958.7539
Sum of Squares Total:	10,010.3662
Coefficient of Determination:	0.6045
Correlation Coefficient:	0.7775
Standard Error Estimate:	7.5745
Standard Error B1:	0.0909
Computed t:	10.2702
Critical t:	1.9970
p value:	0.0002

Conclusion: B1 is statistically significant

Residual Analysis

Number	Y-Actual	Y-Pred	Residual
1	58	57.4590	0.5410
2	70	67.7310	2.2690
3	62	57.4590	4.5410
4	76	53.7238	22.2762
5	78	83.6058	-5.6058
6	72	76.1353	-4.1353
7	78	77.0691	0.9309
8	74	69.5986	4.4014
9	58	61.1943	-3.1943
10	76	74.2677	1.7323
11	86	86.4073	-0.4073
12	84	76.1353	7.8647
13	76	75.2015	0.7985
14	74	71.4662	2.5338
15	84	78.0029	5.9971
16	64	63.9957	0.0043
17	72	74.2677	-2.2677

Residual Analysis

Number	Y-Actual	Y-Pred	Residual
18	80	81.7382	-1.7382
19	54	66.7972	-12.7972
20	92	85.4735	6.5266
21	42	55.5914	-13.5914
22	96	89.2087	6.7913
23	56	57.4590	-1.4590
24	62	66.7972	-4.7972
25	90	80.8044	9.1956
26	60	63.9957	-3.9957
27	84	81.7382	2.2618
28	88	82.6720	5.3280
29	66	69.5986	-3.5986
30	54	69.5986	-15.5986
31	76	70.5324	5.4676
32	88	84.5396	3.4604
33	76	73.3339	2.6661
34	76	69.5986	6.4014

Residual Analysis

Number	Y-Actual	Y-Pred	Residual
35	74	79.8706	-5.8706
36	64	74.2677	-10.2677
37	86	78.0029	7.9971
38	84	76.1353	7.8647
39	52	73.3339	-21.3339
40	78	74.2677	3.7323
41	66	74.2677	-8.2677
42	92	82.6720	9.3280
43	76	76.1353	-0.1353
44	90	91.0763	-1.0763
45	84	80.8044	3.1956
46	92	75.2015	16.7985
47	82	73.3339	8.6661
48	60	74.2677	-14.2677
49	72	78.0029	-6.0029
50	76	81.7382	-5.7382
51	58	68.6648	-10.6648

Residual Analysis

Number	Y-Actual	Y-Pred	Residual
52	84	76.1353	7.8647
53	72	73.3339	-1.3339
54	68	62.1281	5.8719
55	64	63.9957	0.0043
56	58	55.5914	2.4086
57	70	72.4001	-2.4001
58	82	81.7382	0.2618
59	66	70.5324	-4.5324
60	66	73.3339	-7.3339
61	74	60.2605	13.7395
62	46	42.5180	3.4820
63	74	77.0691	-3.0691
64	66	64.9296	1.0704
65	62	70.5324	-8.5324
66	76	78.9368	-2.9368
67	60	58.3929	1.6071
68	62	63.0619	-1.0619

Residual Analysis

Number	Y-Actual	Y-Pred	Residual
69	86	78.9368	7.0632
70	70	79.8706	-9.8706
71	58	63.0619	-5.0619

```
********************   Interval Estimate   ******************
*                                                            *
*  Model:  final = -.4374039  +  .9338136 unit               *
**************************************************************
*                                                            *
*  Value of unit:          90                                *
*                                                            *
*                                                            *
**************************************************************
*  final =  83.61  +/-  2.845  (mean)                        *
*  final =  83.61  +/-  15.395  (individual)                 *
**************************************************************
********************   Interval Estimate   ******************
*                                                            *
*  Model:  final = -.4374039  +  .9338136 unit               *
**************************************************************
*                                                            *
*  Value of unit:          80                                *
*                                                            *
*                                                            *
**************************************************************
*  final =  74.272  +/-  1.841  (mean)                       *
*  final =  74.272  +/-  15.242  (individual)                *
**************************************************************
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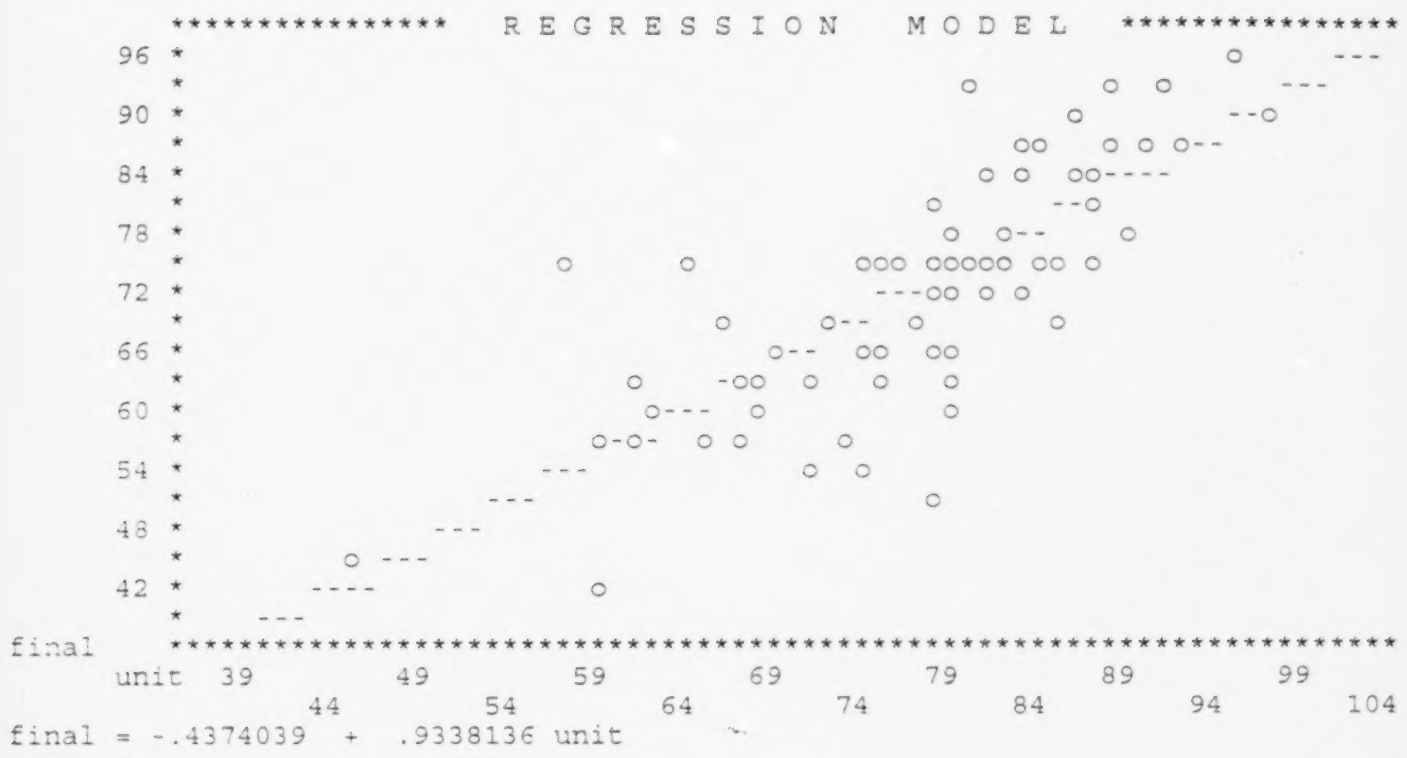
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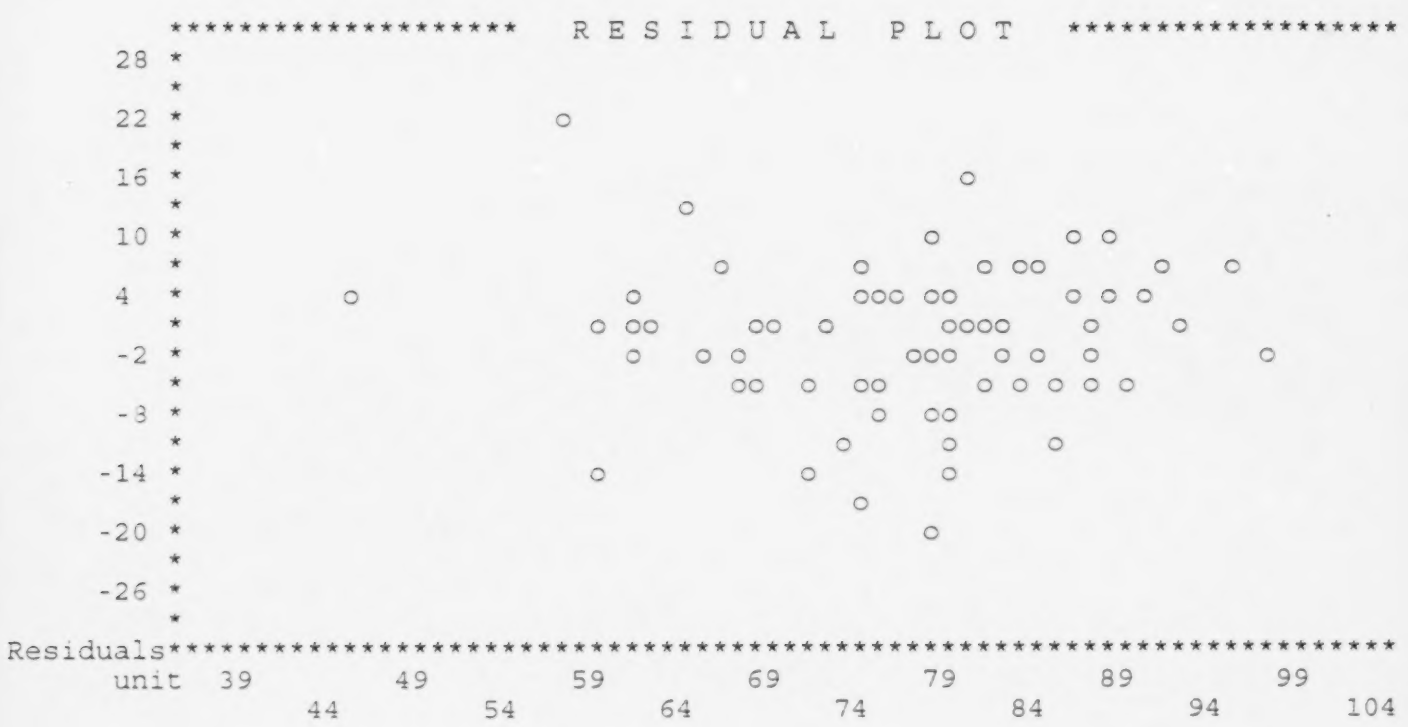
96
90
84
78
72
66
60
54
48
42
final
unit 39 49 59 69 79 89 99
44 54 64 74 84 94 104
final = -.4374039 + .9338136 unit


RESIDUAL PLOT
28
22
16
10
4
-2
-8
-14
-20
-26
Residuals
unit
39
49
59
69
79
89
99
44
54
64
74
84
94
104

APPENDIX C

Information Entered

Number of Data Points: 67
Alpha Error: .05
Critical t: 1.998333
Dependent Variable: # 2 - final

	wri	final		wri	final		wri	final		wri	final
1 =	100	76	12 =	100	92	23 =	80	64	34 =	80	60
2 =	100	88	13 =	100	76	24 =	80	58	35 =	80	62
3 =	100	76	14 =	100	90	25 =	75	70	36 =	88	86
4 =	95	76	15 =	100	84	26 =	90	82	37 =	95	70
5 =	95	74	16 =	100	82	27 =	80	66	38 =	90	58
6 =	100	64	17 =	80	60	28 =	80	66	39 =	80	58
7 =	100	86	18 =	86	72	29 =	84	74	40 =	85	70
8 =	90	84	19 =	98	76	30 =	85	74	41 =	75	62
9 =	80	52	20 =	80	58	31 =	75	66	42 =	85	76
10 =	95	78	21 =	80	72	32 =	87	62	43 =	90	78
11 =	100	66	22 =	80	68	33 =	90	76	44 =	80	72

	wri	final		wri	final
45 =	93	78	64 =	80	84
46 =	82	74	65 =	90	88
47 =	80	58	66 =	65	66
48 =	82	76	67 =	75	54
49 =	100	86			
50 =	80	84			
51 =	80	76			
52 =	83	74			
53 =	88	84			
54 =	80	64			
55 =	80	72			
56 =	97	80			
57 =	80	54			
58 =	100	92			
59 =	85	42			
60 =	100	96			
61 =	80	62			
62 =	88	90			
63 =	80	60			

Results

B0 Coefficient:	1.2839
B1 Coefficient:	0.8135
Mean of X (wri):	87.4776
Mean of Y (final):	72.4478
Sum of Squares Regression:	3,091.0686
Sum of Squares Error:	5,435.4985
Sum of Squares Total:	8,526.5674
Coefficient of Determination:	0.3625
Correlation Coefficient:	0.6021
Standard Error Estimate:	9.1446
Standard Error B1:	0.1338
Computed t:	6.0798
Critical t:	1.9983
p value:	0.0002

Conclusion: B1 is statistically significant

Residual Analysis

Number	Y-Actual	Y-Pred	Residual
1	76	82.6348	-6.6348
2	88	82.6348	5.3652
3	76	82.6348	-6.6348
4	76	78.5673	-2.5673
5	74	78.5673	-4.5673
6	64	82.6348	-18.6348
7	86	82.6348	3.3652
8	84	74.4997	9.5003
9	52	66.3647	-14.3647
10	78	78.5673	-0.5673
11	66	82.6348	-16.6348
12	92	82.6348	9.3652
13	76	82.6348	-6.6348
14	90	82.6348	7.3652
15	84	82.6348	1.3652
16	82	82.6348	-0.6348
17	60	66.3647	-6.3647

Residual Analysis

Number	Y-Actual	Y-Pred	Residual
18	72	71.2457	0.7543
19	76	81.0078	-5.0078
20	58	66.3647	-8.3647
21	72	66.3647	5.6353
22	68	66.3647	1.6353
23	64	66.3647	-2.3647
24	58	66.3647	-8.3647
25	70	62.2971	7.7029
26	82	74.4997	7.5003
27	66	66.3647	-0.3647
28	66	66.3647	-0.3647
29	74	69.6187	4.3813
30	74	70.4322	3.5678
31	66	62.2971	3.7029
32	62	72.0592	-10.0592
33	76	74.4997	1.5003
34	60	66.3647	-6.3647

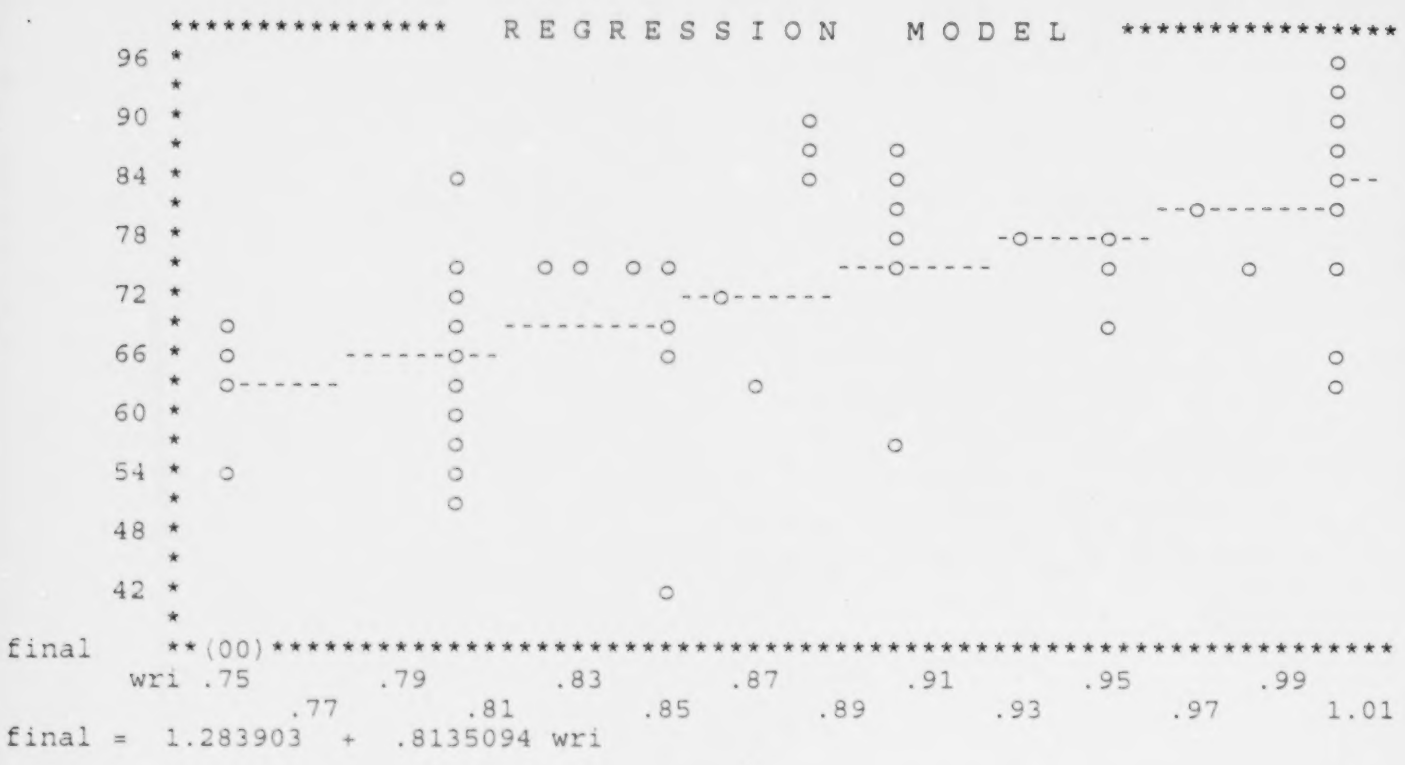
Residual Analysis

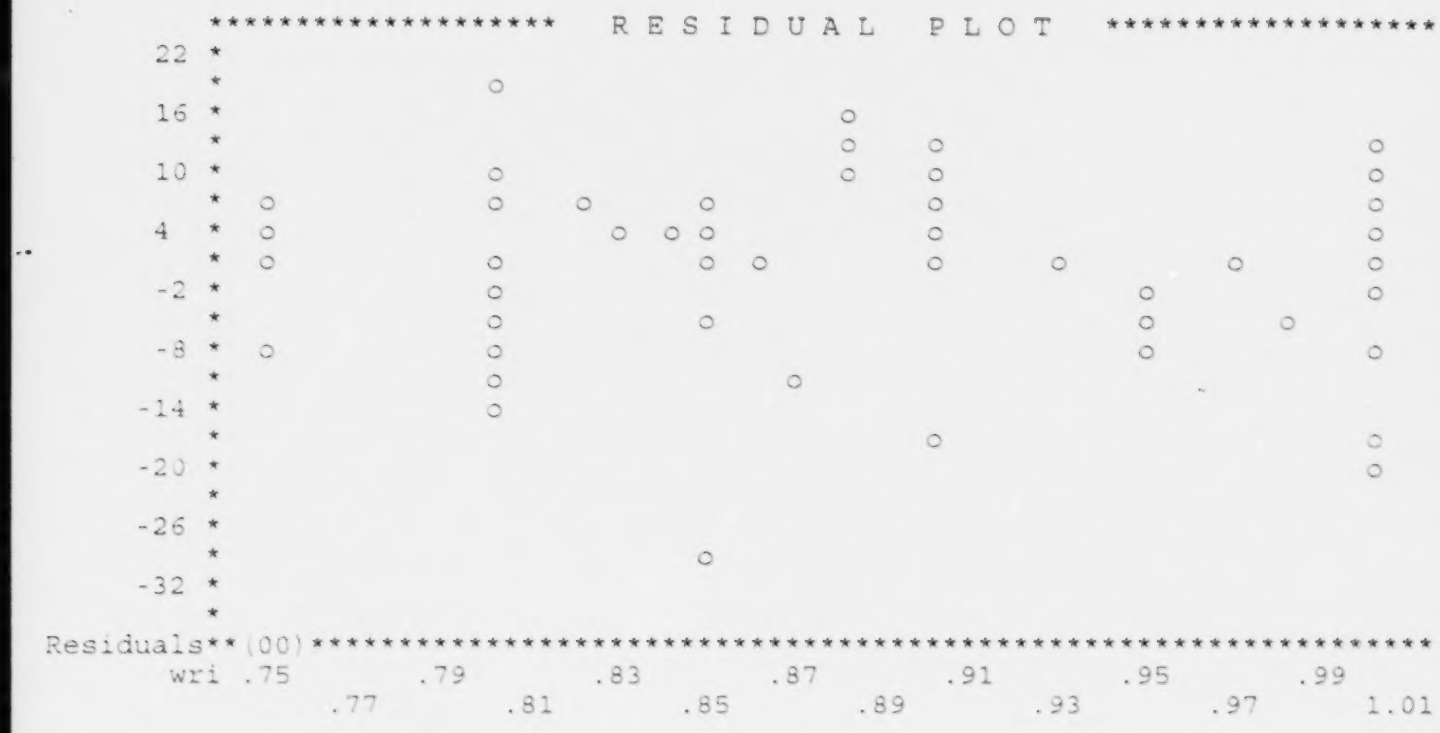
Number	Y-Actual	Y-Pred	Residual
35	62	66.3647	-4.3647
36	86	72.8727	13.1273
37	70	78.5673	-8.5673
38	58	74.4997	-16.4997
39	58	66.3647	-8.3647
40	70	70.4322	-0.4322
41	62	62.2971	-0.2971
42	76	70.4322	5.5678
43	78	74.4997	3.5003
44	72	66.3647	5.6353
45	78	76.9403	1.0597
46	74	67.9917	6.0083
47	58	66.3647	-8.3647
48	76	67.9917	8.0083
49	86	82.6348	3.3652
50	84	66.3647	17.6353
51	76	66.3647	9.6353

Residual Analysis

Number	Y-Actual	Y-Pred	Residual
52	74	68.8052	5.1948
53	84	72.8727	11.1273
54	64	66.3647	-2.3647
55	72	66.3647	5.6353
56	80	80.1943	-0.1943
57	54	66.3647	-12.3647
58	92	82.6348	9.3652
59	42	70.4322	-28.4322
60	96	82.6348	13.3652
61	62	66.3647	-4.3647
62	90	72.8727	17.1273
63	60	66.3647	-6.3647
64	84	66.3647	17.6353
65	88	74.4997	13.5003
66	66	70.4322	-4.4322
67	54	62.2971	-8.2971

```
********************   Interval Estimate   ******************
*                                                            *
*  Model:  final =  1.283903  +  .8135094 wri                *
**************************************************************
*                                                            *
*  Value of wri:           90                                *
*                                                            *
*                                                            *
**************************************************************
*  final =  74.504  +/-  2.337  (mean)                       *
*  final =  74.504  +/-  18.427  (individual)                *
**************************************************************
********************   Interval Estimate   ******************
*                                                            *
*  Model:  final =  1.283903  +  .8135094 wri                *
**************************************************************
*                                                            *
*  Value of wri:           80                                *
*                                                            *
*                                                            *
**************************************************************
*  final =  66.369  +/-  3.001  (mean)                       *
*  final =  66.369  +/-  18.523  (individual)                *
**************************************************************
```


REGRESSION MODEL
96
90
84
78
72
66
60
54
48
42
final
(00)
wri .75 .77 .79 .81 .83 .85 .87 .89 .91 .93 .95 .97 .99 1.01
final = 1.283903 + .8135094 wri


RESIDUAL PLOT
22
16
10
4
-2
-8
-14
-20
-26
-32
Residuals
(00)
wri
.75
.77
.79
.81
.83
.85
.87
.89
.91
.93
.95
.97
.99
1.01

APPENDIX D

ECONOMICS 111 FINAL EXAM 50 QUESTIONS
USE A NUMBER 2 PENCIL AND A SCANTRON SHEET

1) In economic theorizing, abstraction occurs when
   A) unimportant and insignificant factors are not ignored.
   B) abstract logic is used.
   C) only the most significant and important factors are included in the theory.
   D) economic theories are too abstract to depict reality.
   E) empirical evidence is not considered in constructing economic theory.

2) Which of the following is associated with Joseph Schumpeter?
   A) The business cycle is necessary for economic progress.
   B) The internalization of economies.
   C) Socialism as the engine of economic growth.
   D) The failure of socialism to deliver a good standard of living.
   E) Self-interest as the cornerstone of economic activity.

Table 1-1 shows data relating X (on the horizontal axis) and Y (on the vertical axis)

Table 1-1

X	8	12	10
Y	14	22	18

3) The curve between X and Y
   A) is curvilinear.
   B) shows no relationship between X and Y.
   C) shows a negative relationship.
   D) is a straight line.

4) The Latin term "ceteris paribus" is a synonym for
   A) small change.
   B) false cause.
   C) normative choice.
   D) fallacy of composition.
   E) other things equal.

5) The production-possibilities frontier shows
   A) that choosing to consume one good implies sacrificing other goods.
   B) that producing more public goods reduces the available supply of private goods.
   C) that production from given resources is limited.
   D) the maximum production of butter given the production of guns.
   E) All of the above.

6) If the supplies of land, labor, and capital were unlimited,
   A) consumer goods would still be rationed.
   B) scarcity would still be present.
   C) the production-possibilities frontier would not change.
   D) scarcity would no longer be present.
   E) capital goods, but not consumer goods, would still be rationed.

7) "Should Coca-Cola be sweetened with cane sugar or corn syrup?" This question is an example of which economic question?
A) The what question.
B) The fairness question.
C) The ceteris paribus question.
D) The how question.
E) The for whom question.

8) Microeconomics is the study of
A) the behavior of households as consumers and business as producers.
B) the behavior of inflation and unemployment.
C) the economy as a whole.
D) the behavior of variables such as GDP and the rate of inflation.

9) The circular-flow diagram illustrates
A) that the resources furnished to business firms come from consumers.
B) the interdependence of economic activity.
C) how the income of consumers is linked to their own spending in the aggregate.
D) how dollar movements flow in the opposite direction of good or resource movements.
E) All of the above.

10) Assume that Betty and Ann live on a desert island. With a day's labor, Ann can produce 8 fish or 4 coconuts; Betty can produce 6 fish or 2 coconuts. Ann's opportunity cost of producing 1 coconut is
A) 8 fish. B) 0 fish. C) 6 fish. D) 1/2 fish. E) 2 fish.

11) Which of the following correctly completes this statement? The rate of interest
A) is the price of borrowing.
B) signals to businesses whether or not they should invest.
C) is an inducement to save.
D) helps allocate resources between present and future consumption.
E) All of the above.

12) The decision makers in an economy are
A) households.
B) firms.
C) government.
D) (a),(b), and (c).
E) markets.

13) The demand curve is downward-sloping because at a higher price for a good (ceteris paribus)
A) people buy fewer substitutes.
B) people buy more complements.
C) income rises.
D) substitutes become complements.
E) people search for substitutes.

14) An increase in demand means that
A) more will be demanded at a lower price than before.
B) lower prices prevail.
C) less will be demanded at a higher price than before.
D) less will be demanded at the same price as before.
E) more will be demanded at the same price as before.

15) The demand curve will shift to the left for most consumer goods when
A) the prices of substitutes fall.
B) the prices of complements increase.
C) the number of buyers falls.
D) incomes decrease.
E) All of the above.

Figure 4-10

16) Which of the following correctly explains the shift in the supply of new homes shown in the figure above?
A) Improvements in the technology for grading and preparing lots.
B) An increase in lot prices.
C) The city and county agree to increase their share of the cost of street improvements from 10% to 25%.
D) A decrease in the price of lumber.

17) Which of the following is correct? A price index measures
A) the increase in the prices of those goods that are rising fastest.
B) the increase in the prices of those goods that are rising slowest.
C) the increases in prices of goods which are proportionally largest in the average consumer's budget.
D) the rate at which wages are rising.
E) the increase in prices of a market basket of goods in a current year compared to a base year.

18) When a new college graduate enters the labor force for the first time and fails to find a job, he or she is, according to employment statisticians,
A) in the labor force but unemployed.
B) not in the labor force.
C) not counted as unemployed until after the first job.
D) employed.
E) a discouraged worker.

19) According to public opinion polls, most Americans think
A) macroeconomic issues such as inflation and unemployment are more important than health care and crime.
B) macroeconomic issues such as inflation and unemployment are less important than health care and crime.
C) the forecasts of macroeconomists made weather forecasters look good by comparison.
D) the Republican economists are correct about the positive relationship between government deficits and interest rates.

20) Which of the following is correct? The GDP deflator is
A) an exact measure of inflation.
B) the same as the consumer price index (CPI).
C) less comprehensive than the CPI as a price index.
D) more comprehensive than the CPI as a price index.
E) not a price index.

21) Which of the following is correct? The steel used to produce automobiles
A) is an intermediate good.
B) equals the value added of the steel industry.
C) should be counted in net national product along with automobile sales.
D) All of the above.

22) Transfer payments are not included in gross domestic product because
A) they are not payments for current goods and services.
B) they are not necessarily spent upon receipt.
C) they should be included under government final expenditures.
D) they are usually double counted.
E) All of the above.

23) Which of the following is correct? National income equals
A) NNP minus indirect business taxes.
B) NNP minus depreciation and indirect business taxes.
C) net national product (NNP).
D) GDP minus depreciation.
E) GDP.

24) With respect to economic data, the best way to describe a "random walk" is that an economic variable
A) the anticipated future value of the variable is equal to its current value.
B) has large standard deviation.
C) is related to another data series.
D) is related to data from the financial markets such as stock prices.

25) Which of the following is not held constant along the consumption function?
A) The level of consumer assets.
B) Taxes.
C) Expectations.
D) Income.
E) The level of prices.

26) If T represents government taxes and G represents government spending T-G represents
A) government transfer payments.
B) government saving or dissaving.
C) government purchases.
D) aggregate expenditures.

27) When economists refer to government saving or dissaving, they are referring to
A) government surpluses or deficits.
B) government transfer payments.
C) taxes collected by the government.
D) government purchases of goods and services.
E) government bonds.

28) Economists offer three explanations for a downward-sloping aggregate demand curve. Which of the following correctly describes one of these explanations?
A) A rising price level raises nominal interest rates and reduces investment spending at each level of income.
B) A falling price level lowers the purchasing power of consumer assets and decreases desired consumption at each level.
C) A falling domestic price level, holding foreign prices and dollar exchange rates constant, lowers net exports at each income level.
D) A rising domestic price level, holding foreign prices and dollar exchange rates constant, raises net exports at each income level.

29) An important empirical question in macroeconomics is the degree of flexibility of wages and prices. Economists can't answer this question very well because
A) only a few economists are interested in studying the issue.
B) the many studies of price stickiness fail to explain why prices are sticky.
C) data on business inventories for individual firms are not collected.
D) most price data is for list prices, not transaction prices.
E) corresponding data on wage costs are available for a handful of sectors of the economy.

30) In the short-run, the relationship between total output and the price level (the aggregate supply curve)
A) is a function of aggregate labor supply.
B) is determined by the long-run rate of economic growth.
C) is always positive—a higher price level reduces more real output.
D) depends on whether wages and prices are sticky or flexible.
E) depends on investment and thus interest rates.

31) Data on annual rates of change of real GDP and annual rates of change of inflation from the U.S. after WWII
A) do not support either classical or Keynesian macroeconomics.
B) strongly support Keynesian ideas about macroeconomics.
C) provide weak support to the classical explanation of business cycles.
D) cast strong doubt on Keynesian macroeconomic theories.

32) Which of the following correctly completes this statement? Gresham's Law
A) is that bad money usually drives out good money.
B) is, "He who has the gold makes the rules."
C) is that it takes money to make money.
D) is that good money usually stays in circulation.
E) never works.

33) Which of the following is correct? Gresham's law
A) is a problem for commodity monies.
B) is a problem for fiat monies.
C) is a problem for bank monies.
D) is the basis for the quantity theory of money.
E) is a problem in all monetary economies.

34) If the money supply increases, holding everything else constant,
A) interest rates will fall.
B) nothing will happen to the interest rate.
C) interest rates will rise.
D) the liquidity-preference curve will shift to the left.

35) If everything is held constant, interest rates should increase if
A) the demand for money curve shifts to the right.
B) the supply of money increases.
C) the Fed injects reserves into the economy.
D) the demand for money curve shifts to the left.

36) Which of the following is an example of a financial intermediary?
A) a credit union.
B) an insurance company.
C) a stock market mutual fund.
D) a commercial bank.
E) All of the above.

37) Which of the following is correct? Commercial banks
A) are no longer the most important financial intermediary.
B) are the only financial intermediary providing checking accounts.
C) deal only with businesses.
D) are chartered by state agencies or the U.S. Treasury.
E) are less important as financial intermediaries than thrift institutions.

38) Which of the following would constitute a liability of a commercial bank?
A) A deposit at the Fed.
B) An outstanding loan.
C) A demand deposit.
D) Vault cash.

39) Tobin's plan for bank reform would allow depositors a choice between insured and uninsured deposits. In Tobin's view, shared by many economists, uninsured deposits
A) would be relatively small since most depositors would choose an insured account.
B) would offer lower yields to depositors to compensate for greater risk.
C) would be kept to a minimum by bankers to avoid losses in the event of a bank failure.
D) could be insured privately.

40) When the money supply increases, the vertical shift in the aggregate demand curve
A) is in exact proportion to the money supply.
B) is smaller if banks do not hold excess reserves.
C) is smaller if money demand (the liquidity preference curve) is relatively insensitive to interest rates.
D) is greater if investment demand is relatively sensitive to interest rates.

41) Critics of discount rate policy argue that
A) the discount rate should be less than other interest rates.
B) changes in the discount rate have too large an effect on the economy.
C) imprudently run banks should not be subsidized.
D) other monetary policy instruments are equally, if not more, effective.
E) the availability of borrowed funds from the Fed tends to discriminate against smaller banks.

42) When the money supply increases, the horizontal shift in the aggregate demand curve
A) is the same as the vertical shift.
B) depends on the sensitivity of interest rates and investment to the money supply.
C) will be proportionally larger than the increase in the money supply.
D) is in exact proportion to the increase in the money supply.
E) does not depend on the relationship between investment and the money supply.

43) Keynes believed that monetary policy could be ineffective in reducing severe unemployment because
A) the money supply directly affects the price level, by not real GDP.
B) central bankers often followed procyclical monetary policies.
C) increases in the money supply might fail to lower interest rates.
D) the effectiveness lag for monetary policy exceeds two years.

44) One of the implications of the permanent income hypothesis is that
A) consumers are very sensitive to tax increases but react slowly to tax cuts.
B) a small change in consumption must be the result of a small change in income.
C) a transitory change in income will cause a small change or even no change in current consumption.
D) two households with the same income will have similar levels of consumption.

45) Much of the savings and loan bailout was conducted off-budget (an expenditure of $200 billion dollars). Had financing for these government expenditures been placed on-budget,
A) the federal deficit during the years of these expenditures would have been higher.
B) the Federal Reserve's operations would have been greatly disrupted due to the cash drain of the bailout.
C) it would have substantially changed existing estimates of generational accounts.
D) the government borrowing needed to finance $200 billion in expenditures would have raised interest rates.
E) real GDP in the latter part of the 1980s would have been lower.

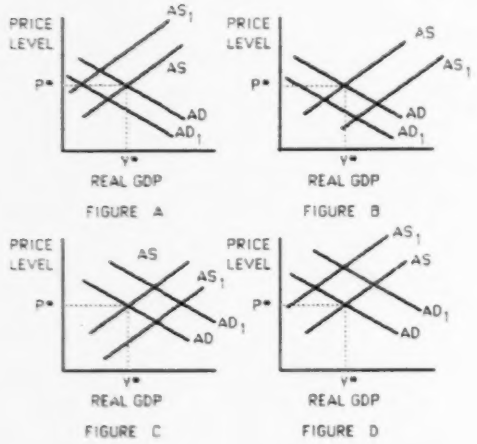
46) Critics of discretionary fiscal policy believe one of its major weaknesses is that
A) the average Congressional representative does not understand macroeconomics, thus resulting in counterproductive fiscal policy.
B) consumers do not behave as predicted by the permanent income hypothesis.
C) the time lag for implementing fiscal policy is substantial and economic conditions may change.
D) government spending does not generally displace private spending.
E) federal spending authority is vested, by the Constitution, in the Congress.

47) The federal debt is best defined as
A) the annual difference between federal revenues and expenditures.
B) the cumulative sum of annual federal deficits and surpluses.
C) the sum of all annual off-budget expenditures.
D) the net lifetime obligations of benefits from federal taxes and expenditures group.

48) Which of the following is correct? Keynesians
A) have no anti-inflation proposals.
B) propose incomes policies and aggregate demand restraint to reduce inflation.
C) propose a constant-monetary-growth rule.
D) propose fundamental changes in the conduct of fiscal policy that would eliminate lags.
E) believe unemployment is better than inflation.

49) The ratification of supply-side inflation by monetary policy poses the danger of
A) getting caught in a wage/price spiral.
B) lowering the money supply.
C) significant crowding out.
D) adopting strict monetarists policies.
E) increasing unemployment in the short run.

Figure 32-2



50) Suppose the economy is operating at the same level of real GDP and the price level in Figures A-D. Which figure correctly illustrates government policy-makers ratifying an adverse supply shock?
A) Figure A. B) Figure B. C) Figure C. D) Figure D.

ECONOMICS 111 FINAL EXAM 50 QUESTIONS
USE A NUMBER 2 PENCIL AND A SCANTRON SHEET

1) Answer: C

2) Answer: A

3) Answer: D

4) Answer: E

5) Answer: E

6) Answer: D

7) Answer: D

8) Answer: A

9) Answer: E

10) Answer: E

11) Answer: E

12) Answer: D

13) Answer: E

14) Answer: E

15) Answer: E

16) Answer: B

17) Answer: E

18) Answer: E

19) Answer: A

20) Answer: D

21) Answer: A

22) Answer: A

23) Answer: A

24) Answer: A

25) Answer: D

26) Answer: B

27) Answer: A

28) Answer: A

29) Answer: D

30) Answer: D

31) Answer: D

32) Answer: A

33) Answer: A

34) Answer: A

35) Answer: D

36) Answer: E

37) Answer: D

38) Answer: C

39) Answer: D

40) Answer: A

41) Answer: C

42) Answer: B

43) Answer: C

44) Answer: C

45) Answer: A

46) Answer: C

47) Answer: B

48) Answer: B

49) Answer: A

50) Answer: D